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(54) **SYSTEM FOR COMPARING REAL-TIME DATA AND MODELING ENGINE DATA TO PREDICT ARC FLASH EVENTS**

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This patent is subject to a terminal disclaimer.

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(52) **U.S. Cl.** **700/286**; 700/292; 700/293; 702/85; 703/2; 703/18; 706/14; 323/212; 324/600; 324/601

(58) **Field of Classification Search** 700/286, 700/292, 293; 702/85; 323/212; 324/600, 324/601; 703/2, 18; 706/14
See application file for complete search history.

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(57) **ABSTRACT**

A system for making real-time predictions about an arc flash event on an electrical system is disclosed. The system includes a data acquisition component, an analytics server and a client terminal. The data acquisition component is communicatively connected to a sensor configured to acquire real-time data output from the electrical system. The analytics server is communicatively connected to the data acquisition component and is comprised of a virtual system modeling engine, an analytics engine and an arc flash simulation engine. The arc flash simulation engine is configured to utilize the virtual system model to forecast an aspect of the arc flash event.

51 Claims, 16 Drawing Sheets